

ABSTRACT OF THE DISCLOSURE

A powder composition which reacts in water to form *in situ* peroxy-carboxylic acids at an anti-microbially effective concentration. Importantly, its utility is both for topical anti-microbial application and for effective low temperature disinfection/sterilization of instruments. It comprises the combination of a perborate, one or more novel acyl and/or aroyl donors, a buffering system which allows the pH to arise to about 9 for rapid formation of the peroxy-carboxylic acids and then drop to about 7.5 for sustained stability and microbial kill. It preferably includes a surfactant facilitating antimicrobial efficacy, as well as other minors.